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*Drought priming effects on alleviating the photosynthetic limitations of wheat cultivars (*Triticum aestivum* L.) with contrasting tolerance to abiotic stresses*

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Table S.1. Intercellular response curve (A/C_i) and light response curve (A/Q) parameters of two cultivars: ‘Gladius’ and ‘Paragon’. A/C_i parameters presented are: saturated net photosynthetic rate (A_{sat}), maximum carboxylation of Rubisco (V_{cmax}) and maximum photosynthetic electron transport rate (J_{max}). A/Q parameters shown are: maximum net photosynthetic rate (A_{max}), dark respiration (R_d); maximal quantum efficiency of photosynthesis (α) corrected for Abs_{Leaf} ; stomatal conductance (g_s), leaf transpiration rate (E), light compensation point (LCP); intercellular CO_2 (C_i); the difference between leaf and cuvette air temperature ($\Delta T = T_{leaf} - T_{cuvette}$) and ratio between CO_2 assimilation and transpiration rate ($WUE_{leaf} = A/E$). Measurements were taken when the relative soil water content reached 35%; control and primed treatments were measured during the expansion of third (P1) and fifth (P2) leaf, respectively, using the last fully developed leaf. Parameters were measured at growth temperature (20°C). All parameters are given at light level of 2000 $\mu mol\ m^{-2}\ s^{-1}$ and $[CO_2]$ of 407 ppm. Different lower letters indicate significant difference at $P < 0.05$ within each cultivar and priming periods. Data represents mean values $\pm$ SEM, $n = 3$.

		‘Gladius’				‘Paragon’			
		1 st Priming		2 nd Priming		1 st Priming		2 nd Priming	
		Control	Primed	Control	Primed	Control	Primed	Control	Primed
Parameters	Units	A/Ci							
A _{sat}	μmol m ⁻² s ⁻¹	32.94 ± 2.23	34.08 ± 2.71	42.16 ± 2.10	44.61 ± 1.94	31.39 ± 1.98	25.65 ± 1.16	37.09 ± 2.55	38.75 ± 0.90
V _{cmax}	μmol m ⁻² s ⁻¹	70.73 ± 9.87	68.29 ± 10.73	101.07 ± 12.90	104.49 ± 11.59	67.20 ± 7.01	56.38 ± 4.15	82.6 ± 10.99	103.78 ± 4.9
J _{max}	μmol m ⁻² s ⁻¹	171.75 ± 20.04	166.69 ± 17.24	226.42 ± 17.38	249.30 ± 15.29	168.27 ± 15.53	135.05 ± 7.47	194.85 ± 21.20	221.65 ± 4.78
		A/Q							
A _{max}	μmol m ⁻² s ⁻¹	31.46 ± 2.54	30.23 ± 2.59	39.89 ± 1.74	38.29 ± 5.22	28.43 ± 2.02	27.04 ± 0.92	35.99 ± 6.42	36.86 ± 3.5
R _d	μmol m ⁻² s ⁻¹	1.46 ± 0.38	1.13 ± 0.08	1.26 ± 0.15	1.14 ± 0.03	0.84 ± 0.06	0.99 ± 0.11	1.15 ± 0.75	0.74 ± 0.16
α	-	0.040 ± 0.001	0.040 ± 0.001	0.04 ± 0.001	0.05 ± 0.001	0.04 ± 0.0001	0.04 ± 0.0001	0.05 ± 0.001	0.05 ± 0.001
g _s	mmol m ⁻² s ⁻¹	523.6 ± 98.2 ^a	334.7 ± 20.0 ^b	523.0 ± 188.3	416.9 ± 79.0	417.0 ± 140.5	398.0 ± 111.7	556.2 ± 96.7	454.4 ± 129.3
E	mmol m ⁻² s ⁻¹	4.57 ± 0.66	3.33 ± 0.23	4.85 ± 1.30	4.01 ± 0.72	4.02 ± 0.76	3.84 ± 0.82	5.16 ± 0.46	4.28 ± 0.87
LCP	μmol m ⁻² s ⁻¹	35.77 ± 8.05	27.91 ± 1.73	27.95 ± 4.49	24.80 ± 1.87	28.43 ± 1.62	27.04 ± 13.86	23.72 ± 15.02	15.55 ± 2.91
C _i	ppm	307 ± 27	266 ± 06	276 ± 35	258 ± 23	290 ± 32	297 ± 24	300 ± 21	271 ± 38
ΔT	°C	0.2 ± 0.2	0.6 ± 0.1	0.3 ± 0.2	0.4 ± 0.1	0.4 ± 0.3	0.3 ± 0.2	0.2 ± 0.2	0.3 ± 0.2
WUE _{leaf}	μmol mmol ⁻¹	5.76 ± 4.58	7.74 ± 1.15	7.01 ± 1.88	8.29 ± 1.69	6.12 ± 1.35	5.89 ± 1.25	5.75 ± 1.01	7.50 ± 2.03

Table S.2. Destructive harvest parameters and chlorophyll index (SPAD) values of two wheat cultivars: ‘Gladius’ and ‘Paragon’. Harvest parameters are: biomass accumulation, specific leaf area (SLA), plant height and number of tillers. SPAD measurements were taken on the flag leaf of the primary tiller of primed and non-primed plants kept under non-stress conditions (CC and PC), after seven days of drought (CD and PD) or heat stress (CH and PH). Different lower letters indicate significant difference at $P < 0.05$ within each cultivar for parameters with interaction between priming and stress, the absence of letters indicates no interaction between factors. . Data represents mean values $\pm$ SEM, $n = 4$.

Parameters	Units	CC	CD	CH	PC	PD	PH
‘Gladius’							
Biomass accumulation	g	11.11 $\pm$ 2.06	11.53 $\pm$ 0.89	11.73 $\pm$ 0.61	13.33 $\pm$ 0.69	12.69 $\pm$ 0.94	11.73 $\pm$ 0.58
SLA	g cm ⁻²	149.26 $\pm$ 11.75	132.01 $\pm$ 21.63	152.98 $\pm$ 4.44	144.81 $\pm$ 7.98	164.55 $\pm$ 6.15	140.94 $\pm$ 10.17
Plant height	cm	43.25 $\pm$ 3.13	48.75 $\pm$ 1.68	45.62 $\pm$ 1.78	45.62 $\pm$ 0.71	46.01 $\pm$ 2.16	46.62 $\pm$ 0.89
Number of tillers		5.25 $\pm$ 0.47 ^a	5.00 $\pm$ 0.4 ^a	4.75 $\pm$ 0.47 ^a	3.75 $\pm$ 0.57 ^a	5.75 $\pm$ 0.25 ^{ab}	4.75 $\pm$ 0.47 ^a
SPAD		45.55 $\pm$ 0.63	43.29 $\pm$ 3.06	47.21 $\pm$ 1.12	47.68 $\pm$ 2.06	46.25 $\pm$ 0.72	44.62 $\pm$ 1.83
‘Paragon’							
Biomass accumulation	g	18.64 $\pm$ 2.75	17.72 $\pm$ 2.08	17.89 $\pm$ 3.08	19.29 $\pm$ 1.15	18.41 $\pm$ 1.75	17.58 $\pm$ 1.28
SLA	g cm ⁻²	131.17 $\pm$ 3.84	138.7 $\pm$ 8.68	114.24 $\pm$ 10.72	118.83 $\pm$ 8.18	103.15 $\pm$ 11.14	113.84 $\pm$ 2.63
Plant height	cm	79.25 $\pm$ 3.19 ^a	71.25 $\pm$ 2.38 ^b	80.25 $\pm$ 0.43 ^a	72.375 $\pm$ 1.73 ^b	69.25 $\pm$ 1.89 ^b	68.12 $\pm$ 1.61 ^b
Number of tillers		3.75 $\pm$ 0.25	3.50 $\pm$ 0.64	3.50 $\pm$ 0.64	3.75 $\pm$ 0.25	4.50 $\pm$ 0.51	4.00 $\pm$ 0.41
SPAD		40.51 $\pm$ 2.07	40.32 $\pm$ 0.74	38.01 $\pm$ 0.92	42.78 $\pm$ 0.99	38.01 $\pm$ 1.18	40.78 $\pm$ 0.61